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EXAMINER

MANOHARAN, MUTHUSWAMY GANAPATHY

ART UNIT PAPER NUMBER

2617

DATE MAILED: 09/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/827,154

Applicant(s)

VEMPATI ET AL.

Examiner

Muthuswamy G. Manoharan

Art Unit

2617

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

Applicant's arguments are related to amended claims. Please refer to the Office action for explanation.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 6-8, 11-14,20-23 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Klem et al. (hereinafter Klem) (US 5646978) in view of Ekman (US 6807422).

Regarding **claim 1**, Klem teaches a method for performing a handoff of a mobile device from a first wireless media gateway (WMG) (item 2a in Figure 2B) to a second WMG (item 2b in Figure 2B), wherein the first and second WMGS are controlled by a single call server ("access manager", Col. 4, lines 13-21), and wherein the first WMG includes first and second bi-directional termination points connecting the first WMG to the mobile device and another party, respectively (Figure 2B), the method comprising: establishing bi-directional fourth and fifth termination points in the second WMG to prepare the second WMG for communicating with the mobile device and the first WMG, respectively (items 28B and 52 in Figure 2B); establishing a unidirectional third

connection point in the first WMG and connecting the third termination point to the fifth termination point in the second WMG (item 52 in Figure 2B); connecting the second and third termination points (items 47-25 in Figure 2B); converting the third termination point from unidirectional to bi-directional (item 47-25 and item 52 in Figure 2B); and converting the first termination point from bi-directional to unidirectional, wherein communications to the mobile device from the other party are routed through the second, third, fifth, and fourth termination points, respectively (items 40,25,49,28b,32,34 in Figure 2B). Klem did not teach expressly a wireless soft switch and "bidirectional and unidirectional termination points". However, Ekman teaches in an analogous art, a wireless soft switch (Abstract; 5-8) and "bidirectional and unidirectional termination points" ("bidirectional logical channel", Col. 10, lines 4-5; "two distinct unidirectional logical channel", Col. 9, lines 45-46). Therefore, it would be obvious to one of ordinary skill in the art to have the softswitch to handle multimedia communications (such as voice, video and text) and "bidirectional and unidirectional termination points" to make the channel assignment easier since the free channels are immediately known. Also,

Soft switch can be easily implemented in the system of Klem (Marsh et al. (US 20060025141), Paragraph [0083]). Soft switch technology is well known in the art as admitted by the Applicant (Background, Paragraph [0004], lines 1-4; US2004/0266437).

Regarding **claim 2**, Klem further teaches deleting the first termination point when the handoff is complete (Col. 7, lines 20-24). Ekman also teaches deleting the first termination point when the handoff is complete (Col. 9, lines 11-12).

Regarding **claim 3**, Klem in view of Ekman teaches all the particulars of the claim

1. Klem did not teach expressly method further comprising converting the first termination point back to bi-directional from unidirectional if the handoff fails (Col. 7, lines 20-24). However, Ekman teaches in an analogous art, method further comprising converting the first termination point back to bi-directional from unidirectional if the handoff fails (Col. 9, lines 6-20). Therefore, it would be obvious to one of ordinary skill in the art at the time of invention to use the method further comprising converting the first termination point back to bi-directional from unidirectional if the handoff fails. This modification improves the reliability of the communication system.

Regarding **claim 6**, Klem further teaches the method of claim 1, wherein, the third termination point is converted to bi-directional only after a handoff detect message is received by the call server (Col. 7, lines 21-25).

Regarding **claim 7**, Klem teaches a method for performing a handoff of a mobile device from a first wireless media gateway (WMG) (item 2a in Figure 2B) to a second WMG (item 2b in Figure 2B), wherein the first and second WMGS are controlled by a single call server ("access manager", Col. 4, lines 13-21), and wherein the first WMG is in communication with the mobile device through a first base station subsystem (BSS) ("radio port", item 30 in Figure 2B; Col. 4, lines 5-7) connected to the first WMG via a bi-directional first termination point and is in communication with a connected party via a bi-directional second termination point, the method comprising (item 28 in Figure 1): sending at least one message from the call server to the second WMG to create bi-directional fourth and fifth termination points to prepare the second WMG for

communicating with the mobile device via a second BSS and with the first WMG, respectively (Col. 6, lines 63-66; Col. 4, lines 13-21; items 28B and 52 in Figure 2B); sending at least one message from the call server to the first WMG to establish a uni-directional third termination point in the first WMG, wherein the first and second WMGS are connected via the third and fifth termination points (Col. 6, lines 63-66; Col. 4, lines 13-21; item 52 in Figure 2B); sending at least one message from the call server to the first WMG to connect the second and third termination points (items 47-25 in Figure 2B; Col. 6, lines 63-66; Col. 4, lines 13-21); and sending at least one message from the call server to the first WMG to convert the third termination point from uni-directional to bi-directional and the first termination point from bi-directional to uni-directional (Col. 6, lines 63-66; Col. 4, lines 13-21; items 40,25,49,28b,32,34 in Figure 2B). Klem did not teach expressly a wireless soft switch and "bidirectional and unidirectional termination points". However, Ekman teaches in an analogous art, a wireless soft switch (Abstract; 5-8) and "bidirectional and unidirectional termination points" ("bidirectional logical channel", Col. 10, lines 4-5; "two distinct unidirectional logical channel", Col. 9, lines 45-46). Therefore, it would be obvious to one of ordinary skill in the art to have a wireless soft switch to handle multimedia communications such as voice, text and video and "bidirectional and unidirectional termination points" to make the channel assignment easier since the free channels are immediately known.

Also, Soft switch can be easily implemented in the system of Klem (Marsh et al. (US 20060025141), Paragraph [0083]).

Regarding **claim 8**, Klem further teaches The method of claim 7 further comprising: sending at least one message from the call server to the first WMG to delete the first termination point when the call server receives a message indicating that the handoff is complete (Col. 6, lines 63-66; Col. 4, lines 13-21; Col. 7, lines 20-24).

Regarding **claim 11**, Klem further teaches the method of claim 7 further comprising: handing off the mobile device to a third WMG controlled by the call server by connecting the third termination point with a sixth termination point created in the third WMG (item 57 in Figure 2E); and establishing a seventh termination point connected to the sixth termination point, wherein the seventh termination point (item 51 in Figure 2D) connects the third WMG to a third BSS in communication with the mobile device (item 28c in Figure 2D).

Regarding **claim 12**, Klem teaches a system for managing a handoff of a mobile device, the system comprising: a call server ("access manager", Col. 4, lines 13-21); first and second wireless media gateways (WMGs) (items 2a and 2b in Figure 2B) controlled by the call server ("access manager", Col. 4, lines 13-21) and accessible to one another (Figure 2B); first and second base station subsystems (BSSs) connected to the first and second WMGS, respectively (items 30 in Figure 1), and a plurality of computer executable instructions for execution within the system, the instructions including: instructions for establishing a communication channel between the mobile device and a connected party through the first WMG via a context created using first and second termination points, respectively (Col. 3, lines 16-55; Figure 2B); instructions for sending at least one message from the call server to the second WMG to create

fourth and fifth termination points to prepare the second WMG for communicating with the mobile device and the first WMG, respectively (Col. 6, lines 63-66; Col. 4, lines 13-21; items 28b,49 and 52 in Figure 2B); instructions for sending at least one message from the call server to the first WMG to establish a third connection point in the first WMG, wherein the first and second WMGs are connected via the third and fifth termination points (Col. 6, lines 63-66; Col. 4, lines 13-21; item 52 in Figure 2B); instructions for sending at least one message from the call server to the first WMG to create a context using the second and third termination points (Col. 6, lines 63-66; Col. 4, lines 13-21; item 52 in Figure 2B); and instructions for sending at least one message from the call server to the first WMG to ensure that the third termination point is bi-directional and the first termination point is unidirectional (Col. 6, lines 63-66; Col. 4, lines 13-21; items 40,25,28b, and 34 in Figure 2B). Klem did not teach expressly a wireless soft switch and “bidirectional and unidirectional termination points”. However, Ekman teaches in an analogous art, a wireless soft switch (Abstract; 5-8) and “bidirectional and unidirectional termination points” (“bidirectional logical channel”, Col. 10, lines 4-5; “two distinct unidirectional logical channel”, Col. 9, lines 45-46). Therefore, it would be obvious to one of ordinary skill in the art to have a wireless soft switch to handle multimedia communications and “bidirectional and unidirectional termination points” to make the channel assignment easier since the free channels are immediately known.

Regarding **claim 13**, Klem further teaches the system of claim 12 further comprising; instructions for sending at least one message from the call server to the first

WMG to delete the first termination point (Col. 6, lines 63-66; Col. 4, lines 13-21; Col. 7, lines 20-24).

Regarding **claim 14**, Klem further teaches the system of claim 13 wherein the first termination point is deleted only after a message indicating that the handoff is successful is received by the call server (Col. 7, lines 20-24).

Regarding **claim 20**, Klem teaches a method for handing off a mobile device from a first wireless media gateway (WMG) to a second WMG, wherein the first and second WMGs are controlled by a single call server ("access manager", Col. 4, lines 13-21), and wherein the first WMG includes first and second termination points connecting the first WMG to the mobile device and another party, respectively (Figure 2B), the method comprising: creating fourth and fifth termination points in the second WMG to provide an interface for the second WMG to communicate with the mobile device and the first WMG, respectively (items 28B and 52 in Figure 2B); establishing a third termination point in the first WMG, wherein the third and fifth termination points link the first and second WMGS (item 52 in Figure 2B); creating a context with the second and third termination points (items 47-25 in Figure 2B); and making the third termination point bi-directional (items 47-25 and item 52 in Figure 2B).

Klem did not teach expressly a wireless soft switch and "bidirectional and unidirectional termination points". However, Ekman teaches in an analogous art, a wireless soft switch (Abstract; 5-8) and "bidirectional and unidirectional termination points" ("bidirectional logical channel", Col. 10, lines 4-5; "two distinct unidirectional logical channel", Col. 9, lines 45-46). Therefore, it would be obvious to one of ordinary

skill in the art to have the softswitch to handle multimedia communications (such as voice, video and text) and “bidirectional and unidirectional termination points” to make the channel assignment easier since the free channels are immediately known. Also,

Soft switch can be easily implemented in the system of Klem (Marsh et al. (US 20060025141), Paragraph [0083]).

Regarding **claim 21**, Klem teaches the method of claim 20 further comprising, if the first termination point is bi-directional, converting the first termination point from bi-directional to unidirectional (items 40,25,49,28b,32, and 34 in Figure 2B).). Klem did not teach expressly “bidirectional and unidirectional termination points”. However, Ekman teaches in an analogous art, “bidirectional and unidirectional termination points” (“bidirectional logical channel”, Col. 10, lines 4-5; “two distinct unidirectional logical channel”, Col. 9, lines 45-46). Therefore, it would be obvious to one of ordinary skill in the art to have “bidirectional and unidirectional termination points”. This modification makes the channel assignment easier since the free channels are immediately known.

Regarding **claim 22**, Klem teaches the method of claim 20 wherein the mobile device is handed off to a third WMG controlled by the call server, the method further comprising: creating sixth and seventh termination points in the third WMG (item 57 in Figure 2E) to provide an interface for the third WMG to communicate with the mobile device and the first WMG, respectively; and linking the third termination point to the seventh termination point (item 51 in Figure 2D) to provide a communication channel between the mobile device and the other party (item 28c in Figure 2D).

Regarding **claim 23**, Klem in view of Ekman teaches all the particulars of the claim 20 except wherein the mobile device is handed back to the first WMG, the method further comprising: if the first termination point is unidirectional, converting the first termination point from unidirectional to bi-directional; and making the third termination point unidirectional. However, Ekman teaches in an analogous art, wherein the mobile device is handed back to the first WMG, the method further comprising: if the first termination point is unidirectional, converting the first termination point from unidirectional to bi-directional; and making the third termination point unidirectional (Col. 9, lines 6-20). Therefore, it would be obvious to one of ordinary skill in the art at the time of invention to use the method wherein the mobile device is handed back to the first WMG, the method further comprising: if the first termination point is unidirectional, converting the first termination point from unidirectional to bi-directional; and making the third termination point unidirectional. This modification improves the reliability of the communication system.

Regarding **claim 24**, Klem further teaches the method of claim 23 further comprising deleting the third termination point after the mobile device is successfully handed back to the first WMG (Col. 7, lines 20-24).

Regarding **claim 25**, Klem teaches the method of claim 23 further comprising, if the first termination point does not exist, creating the first termination point (item 47 in Figure 2B).

Claims 4,9,15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Klem in view of Ekman and further in view of Srinivas (WO 01/82551).

Regarding **claims 4,9,15 and 16** Klem in view of Ekman teaches all the particulars of the claim except Internet Protocol connection between the first and second WMGs. However, Srinivas teaches in an analogous art, Internet Protocol connection between the first and second WMGs to carry the communications between the mobile device and the other party ("VoIP", Page 1, Page 2 -9). Therefore, it would be obvious to one of ordinary skill in the art at the time invention to use Internet Protocol connection between the first and second WMGs to carry the communications between the mobile device and the other party. This modification allows sound, data and video information to be transmitted over existing Internet.

Claims 5,10,17,18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Klem in view of Ekman and further in view of Gibbs et al. (hereinafter Gibbs) (US 6683877).

Regarding **claim 17**, Klem in view of Ekman teaches all the particulars of the claim except wherein communications between the first and second WMGs use a voice over asynchronous transfer mode connection, and wherein the system further comprises instructions for creating a switched virtual channel between the first and second WMGS. However, Gibbs teaches in an analogous art, communications between the first and second WMGs use a voice over asynchronous transfer mode connection, and wherein the system further comprises instructions for creating a switched virtual

channel between the first and second WMGS ("switched virtual circuits (SVCs)", "ATM virtual circuits (VCCs) carry the voice calls", Col. 2, lines 35-46). Therefore, it would be obvious to one of ordinary skill in the art at the time of invention to have communications between the first and second WMGs use a voice over asynchronous transfer mode connection, and wherein the system further comprises instructions for creating a switched virtual channel between the first and second WMGS. This modification provides a method for carrying voice over a broadband, e.g. a packet or cell based network.

Regarding **claim 18**, Klem in view of Ekman and further in view Gibbs teaches all the particulars of the claim 17. Moreover, neither Klem nor Ekman teaches expressly the switched virtual channel is created after the third termination point is established. However, Gibbs teaches in an analogous art, the switched virtual channel is created after the third termination point is established (Col. 2, lines 40-45). Therefore, it would be obvious to one of ordinary skill in the art at the time of invention to have the switched virtual channel is created after the third termination point is established. This modification prevents the link between the media gateways from getting saturated and causing blocking of calls.

Regarding **claim 19**, Klem in view of Ekman teaches all the particulars of the claim except wherein communications between the first and second WMGS use a voice over time division multiplexing connection. However, Gibbs teaches in an analogous art, a method wherein communications between the first and second WMGS use a voice over time division multiplexing connection ("TDM", Col. 1, line 17; Col. 2, lines 39-40).

Therefore, it would be obvious to one of ordinary skill in the art at the time of invention to have a method wherein communications between the first and second WMGS use a voice over time division multiplexing connection. This modification helps in transporting efficiently voice and data in single channel.

Regarding **claims 5 and 10**, Klem in view of Ekman teaches all the particulars of the claim except wherein creating a switched virtual channel between the first and second WMGS to carry the communications between the mobile device and the other party after the third termination point is established. However, Gibbs teaches in an analogous art, a method, wherein creating a switched virtual channel between the first and second WMGS to carry the communications between the mobile device and the other party after the third termination point is established (Col. 2, line 45). Therefore, it would be obvious to one of ordinary skill in the art at the time of invention to have a method wherein creating a switched virtual channel between the first and second WMGS to carry the communications between the mobile device and the other party after the third termination point is established. . This modification prevents the link between the media gateways from getting saturated and causing blocking of calls.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.


Hau et al. (US 7042859)

Marsh et al. (US 2006/0025141)

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Muthuswamy G. Manoharan whose telephone number is 571-272-5515. The examiner can normally be reached on 7:30AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lester Kincaid can be reached on 571-272-7922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


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